CLAIMS:

1. An axial gap electronic motor including a stator and a rotor each formed approximately in a disc shape and disposed opposingly at a same rotary shaft with a predetermined gap,

wherein said stator comprises a plurality of pole members annularly connected, and each of said pole members comprises connecting means for connecting adjacent pole members.

2. The axial gap electronic motor according to claim 1, wherein each of said pole members has a stator iron core, a bobbin-shaped insulator including a pair of left and right flanges for winding a coil is integrally formed at said stator iron core, and said insulator is provided with connecting means for connecting each of said adjacent pole members.

3. The axial gap electronic motor according to claim 2, wherein said flanges are formed to be larger than winding width of a coil which is wound around said insulator.

4. The axial gap electronic motor according to claim 1, 2 or 3, wherein a rotatable first engaging member comprising a combination of a boss and a bearing recessed portion for it, which are provided at outer periphery sides, seen from a center of said stator, on opposing surfaces of said flanges of said adjacent pole members, is included as said connecting means.

5. The axial gap electronic motor according to any one of claims 1 to 4, wherein a rotatable second engaging member comprising a combination of a boss and a bearing recessed portion for it, which are provided at inner circumferential sides, seen from a center of said stator, on opposing surfaces of said flanges of said adjacent pole members, is included as said connecting means.

6. The axial gap electronic motor according to any one of claims 1 to 5, wherein said first engaging member and second engaging member are provided as said connecting means.

7. The axial gap electronic motor according to any one of claims 1 to 6, wherein said insulator comprises a single insulating material.

8. The axial gap electronic motor according to any one of claims 1 to 7, wherein said insulator comprises at least two separate division parts, and each of said division parts is formed to sandwich said stator iron core with each other.

9. The axial gap electronic motor according to any one of claims 1 to 8, wherein a connecting wire support member for supporting a connecting wire laid between the pole members is integrally provided in at least one of said flanges in each of said pole members.

10. The axial gap electronic motor according to claim 9, said connecting wire support member is provided to jut out to a side of said flange.

11. The axial gap electronic motor according to claim 9 or 10, wherein a connecting wire housing groove for catching said connecting wire is formed on said connecting wire support member.

12. The axial gap electronic motor according to claim 11, wherein in at least part of said connecting wire housing groove, groove width of an opening is formed to be narrower than groove width of an inside so that said connecting wire cannot easily fall off.

13. The axial gap electronic motor according to claim 11 or 12, wherein said connecting wire housing groove comprises a groove with an approximately C-shaped section.

14. The axial gap electronic motor according to claim 11, 12, or 13, wherein a number of said connecting wire housing grooves, which are provided, corresponds to at least a number of phases.

15. The axial gap motor according to any one of claims 11 to 14, wherein in a case in which at least two of said connecting wire housing grooves are provided at said connecting wire support member, one of the connecting wire housing grooves is disposed at an upper surface side of said connecting wire support member and the other connecting wire housing groove is disposed at a lower surface side of said connecting wire support member.

16. The axial gap electronic motor according to claim 9, 10, or 11, wherein said connecting wire support member is provided with a twining portion around which a winding start end of a coil that is wound around said stator iron core and a winding terminal end of the coil are wound.

17. The axial gap electronic motor according to claim 16, wherein said twining portion has a first rod portion at a side of the winding start end of said coil and a second rod portion at a side of the winding terminal end of said coil, and a stopper with an extended diameter for preventing coil from falling off is formed at a head portion of each of said rod portions.

18. The axial gap electronic motor according to claim 16 or 17, wherein in a case in which at least two of said twining portions are provided at said connecting wire support member, one and the other of them are disposed at positions with different heights.

19. The axial gap electronic motor according to claim 17, wherein coil catching grooves, through which a part of the coil passing from the first rod portion at the side of the winding start end of said coil to an inside of said

insulator and a part of the coil passing from the inside of said insulator to the second rod portion at the side of the winding terminal end of said coil are passed, are formed at an upper edge of said flange.

20. The axial gap electronic motor according to any one of claims 2 to 19, wherein said stator iron core is provided with a skew inclined at a predetermined angle with respect to a rotating direction of said rotors.

21. The axial gap electronic motor according to claim 20, wherein an engaging member comprising a combination of a boss and a recessed portion as said connecting means is provided on opposing surfaces of said flanges of said each pole member.

22. The axial gap electronic motor according to claim 20 or 21, wherein said engaging member is provided at an inner circumferential side and/or an outer circumferential side seen from a center of said stator.

23. The axial gap electronic motor according to any one of claims 1 to 3 or claims 20 to 22, wherein a connecting wire housing groove for supporting a connecting wire laid between the pole members is integrally provided on a side surface of at least one of said flanges in said each pole member.

24. The axial gap electronic motor according to any one of claims 1 to 3, or claim 23, wherein said connecting wire housing groove is made thinner at an open end portion than at the other portions.

25. The axial gap electronic motor according to any one of claims 1 to 3, claim 23 or claim 24, wherein in a case in which said connecting wire housing grooves are placed side by side at two spots or more, said connecting wire housing grooves are placed so that height positions differs via a step portion.

26. The axial gap electronic motor according to any one of claims 1 to 3, or claims 23 to 25, wherein said connecting wire housing groove is provided with catching grooves for catching part of the coil by hitching it.

27. The axial gap motor according to any one of claims 1 to 3, or claims 20 to 26, wherein in said connecting wire housing groove, an outer wall surface at an inner diameter side comprises a tapered plane inclined toward a radial direction.

28. The axial gap electronic motor according to any one of claims 1 to 27, wherein resin introducing passages for enhancing flow of a resin when the pole members are connected to each other and integrated by a synthetic resin material, are provided at part of said insulator.

29. The axial gap electronic motor according to any one of claims 1 to 28, wherein a pair of said rotors are provided at a left and a right with said stator therebetween.

30. The axial gap electronic motor according to any one of claims 2 to 29, wherein in a case in which said pole member includes a stator iron core, said stator iron core has a pair of tooth portions opposing said rotors and a winding portion which is formed between said tooth portions and around which said coil is wound, and said tooth portions have same projection areas to a left and a right lamination areas with said winding portion between them.